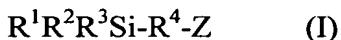


wherein R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> independently of one another are H, (C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>1</sub>-C<sub>4</sub>)alkoxy or halogen and the number of alkyl groups is ≥ 1; R<sup>4</sup> is a linear or branched(C<sub>1</sub>-C<sub>18</sub>)divalent hydrocarbon group; and Z = H, halogen, SCN, SH or S<sub>x</sub>-R<sup>4</sup>-SiR<sup>1</sup>R<sup>2</sup>R<sup>3</sup>, where x is 2 to 10; and

wherein the organosilane is mixed with the rubber in unsupported form or supported on a carrier selected from the group consisting of silicic acids, natural silicates, synthetic silicates, aluminum oxide, and carbon black.

*Please add new claims 21 and 22 as follows:*

21. (New) A rubber mixture comprising rubber and an organosilanes of the general structure:



wherein R<sup>1</sup> = ethoxy or methoxy, R<sup>2</sup> = R<sup>3</sup> = methyl, R<sup>4</sup> = propylene or isobutylene and Z = S<sub>x</sub>-R<sup>4</sup>-SiR<sup>1</sup>R<sup>2</sup>R<sup>3</sup>, where x has a statistical mean value of 2 to 4.

22. (New) A rubber mixture comprising rubber and an organosilane of formula (I):



wherein R<sup>1</sup> = ethoxy or methoxy, R<sup>2</sup> = R<sup>3</sup> = methyl, R<sup>4</sup> = propylene or isobutylene and Z = S<sub>x</sub>-R<sup>4</sup>-SiR<sup>1</sup>R<sup>2</sup>R<sup>3</sup>, where x has a statistical mean value of 2 to 4, and

wherein the organosilane is mixed with the rubber in unsupported form or supported on a carrier selected from the group consisting of silicic acids, natural silicates, synthetic silicates, aluminum oxide, and carbon black.

## II. REMARKS

### Preliminary Remarks:

Upon entry of this Amendment, claims 1-22 will be pending of which claims 1, 15, 21, and 22 are independent. Claims 1 and 15 are amended to claim a rubber mixture comprising a solution of styrene/butadiene copolymers and an organosilane of formula R<sup>1</sup>R<sup>2</sup>R<sup>3</sup>Si-R<sup>4</sup>-Z. Claims 21 and 22 are new and are original claims 1 and 15 incorporating the limitation of claim 5. Support for the claim amendments and the new claims can be found in the claims and specification as filed (see, for example, page 5, line 31 and page 8, line 3). The applicants believe that no new matter has been added as a result of these amendments.

This response is being filed with a request for continued examination as well as a petition for a one-month extension and the requisite fee.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached Appendix is captioned "Version with markings to show changes made".

Patentability Remarks:

*Rejections under 35 U.S.C. §102(b) –*

Claims 1-8 and 15-17 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Wolff *et al.* (U.S. Pat. No. 5,159,009). In light of the present amendments, this rejection is moot.

As amended, claims 1-20 are directed to a solution of styrene/butadiene copolymers and an organosilane of formula R<sup>1</sup>R<sup>2</sup>R<sup>3</sup>Si-R<sup>4</sup>-Z. The applicants note that the styrene/butadiene rubber (SBR) example in Wolff *et al.* (Example VII in column 8) is an emulsion styrene/butadiene rubber. Therefore, the present claims are not anticipated by Wolff *et al.* and the applicants respectfully request removal of this rejection.

*Rejections under 35 U.S.C. §103(a) –*

Claims 9-14 and 18-20 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Wolff *et al.* in view of Takeichi *et al.* (U.S. Pat. No. 6,008,295). In light of the present amendments, this rejection is moot.

As noted above, claims 1-20 are directed to a solution of styrene/butadiene copolymers and an organosilane of formula R<sup>1</sup>R<sup>2</sup>R<sup>3</sup>Si-R<sup>4</sup>-Z. The styrene/butadiene rubber (SBR) example in Wolff *et al.* (Example VII in column 8) is an emulsion styrene/butadiene rubber. Wolff *et al.* provides no motivation for one skilled in the art to use a solution SBR in place of the emulsion SBR disclosed. Therefore, there would be no motivation for one skilled in the art to mold solution SBRs containing organosilanes into products using the techniques of Takeichi *et al.* Therefore, the present claims are not unpatentable over Wolff *et al.* in view of Takeichi *et al.* and the applicants respectfully request removal of this rejection.

Finally, new claims 21 and 22 are directed to specific embodiments of the invention in which R<sup>1</sup> = ethoxy or methoxy, R<sup>2</sup> = R<sup>3</sup> = methyl, R<sup>4</sup> = propylene or isobutylene and Z = S<sub>x</sub>-R<sup>4</sup>-SiR<sup>1</sup>R<sup>2</sup>R<sup>3</sup>, where x has a statistical mean value of 2 to 4. There is no motivation of one skilled in the art in view of Wolff *et al.* to specifically choose these combinations. As noted

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in on page 3, lines 18-23, release of alcohol is reduced by 66% when these compounds are used in the rubber mixing process. This fact could not have been predicted by one skilled in the art referring to Wolff *et al.* Therefore, claims 21 and 22 are neither anticipated by, nor obvious over, Wolff *et al.*

The applicants respectfully submit that this application is in condition for allowance and respectfully request a timely Notice to that effect. Should questions relating to patentability remain, the Examiner is invited to contact the undersigned to discuss the same.

Respectfully submitted,

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## APPENDIX

### VERSION WITH MARKINGS TO SHOW CHANGES MADE

#### IN THE CLAIMS:

1. (Twice Amended) A rubber mixture [Rubber mixtures,] comprising a solution of styrene/butadiene copolymers and organosilanes of the general structure:



wherein  $R^1, R^2$  and  $R^3$  independently of one another are H, ( $C_1-C_4$ )alkyl, ( $C_1-C_4$ )alkoxy or halogen and the number of alkyl groups is  $\geq 1$ ;  $R^4$  is a linear or branched ( $C_1-C_{18}$ ) divalent hydrocarbon group; and  $Z = H$ , halogen, SCN, SH or  $S_x-R^4-SiR^1R^2R^3$ , where  $x$  is 2 to 10.

15. (Amended) A rubber mixture comprising a solution of styrene/butadiene copolymers [rubber] and an organosilane of formula (I):



wherein  $R^1, R^2$  and  $R^3$  independently of one another are H, ( $C_1-C_4$ )alkyl, ( $C_1-C_4$ )alkoxy or halogen and the number of alkyl groups is  $\geq 1$ ;  $R^4$  is a linear or branched ( $C_1-C_{18}$ ) divalent hydrocarbon group; and  $Z = H$ , halogen, SCN, SH or  $S_x-R^4-SiR^1R^2R^3$ , where  $x$  is 2 to 10; and

wherein the organosilane is mixed with the rubber in unsupported form or supported on a carrier selected from the group consisting of silicic acids, natural silicates, synthetic silicates, [and] aluminum oxide, and carbon black.

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